

Mr. Greg Kissell  
Whirlpool Corporation, Evansville Division  
5401 U.S. Highway 41 North  
Evansville, Indiana 47727

Re: **163-11657-00022**  
Significant Source Modification to:  
Part 70 permit No.: **T 163-7467-00022**

Dear Mr. Kissell:

Whirlpool Corporation, Evansville Division was issued Part 70 operating permit **T 163-7467-00022** on July 13, 1999 relating to the manufacture of household refrigerators and ice making equipment. An application to modify the source was received on December 13, 1999. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

One (1) Expanded Polystyrene Process, identified as F12, consisting of one (1) pre-expander and eleven (11) press molders with a maximum usage of 14,000 pounds of beads per day of raw material, and exhausting to room.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions  
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact Paula M. Miano, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

PMM/MES  
Attachments

cc: File - Vanderburgh County  
U.S. EPA, Region V  
City of Evansville Environmental Protection Agency  
Southwest Regional Office  
Air Compliance Section Inspector - Scott Anslinger  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner

**PART 70 SIGNIFICANT SOURCE MODIFICATION  
OFFICE OF AIR MANAGEMENT  
AND  
CITY OF EVANSVILLE ENVIRONMENTAL  
PROTECTION AGENCY**

**Whirlpool Corporation  
5401 U.S. 41 North  
Evansville, Indiana 47727**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T163-7467-00022	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: July 13, 1999
First Significant Source Modification: SSM 163-11657-00022	Pages Affected: 4, 7, and 41
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

D.2.8 Visible Emissions Notations

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.2.9 Record Keeping Requirements

D.2.10 Reporting Requirements

**D.3 FACILITY OPERATION CONDITIONS**

- One (1) Black Paint System (metal parts are being coated), identified as EU2

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

D.3.2 Volatile Organic Compound (VOC) [326 IAC 8]

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

D.3.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.3.5 Particulate Matter (PM)

D.3.6 Monitoring

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.3.7 Record Keeping Requirements

**D.4 FACILITY OPERATION CONDITIONS**

- One (1) Thermoplastic Liner System, identified as EU1

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.4.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

D.4.2 Volatile Organic Compound (VOC) [326 IAC 8]

**Compliance Determination Requirements**

D.4.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.4.4 Particulate Matter (PM)

D.4.5 Monitoring

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.4.6 Record Keeping Requirements

**D.5 FACILITY OPERATION CONDITIONS**

- One (1) Expanded Polystyrene Process, identified as F12

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.5.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

**Compliance Determination Requirements**

D.5.2 Testing Requirements [326 IAC 2-7-6(1),(6)]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- (g) One (1) Expanded Polystyrene Process, identified as F12, consisting of one (1) pre-expander and eleven (11) press molders with a maximum usage of 14,000 pounds of beads per day of raw material, and exhausting to room.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- One (1) Natural Gas-fired Boiler less than ten million British thermal units per hour (1.527 MMBtu/hr).

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

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This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION D.5

## FACILITY OPERATION CONDITIONS

- (g) One (1) Expanded Polystyrene Process, identified as F12, consisting of one (1) pre-expander and eleven (11) press molders with a maximum usage of 14,000 pounds of beads per day of raw material, and exhausting to room.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.5.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the PM from the Expanded Polystyrene Process, identified as F12, shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

### Compliance Determination Requirements

#### D.5.2 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.5.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

There are no compliance monitoring requirements applicable to this emission unit.

### Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

No record keeping or reporting is required.

**Indiana Department of Environmental Management  
Office of Air Management  
and City of Evansville Environmental Protection Agency**

**Technical Support Document (TSD) for a Part 70  
Significant Source Modification**

**Source Background and Description**

<b>Source Name:</b>	<b>Whirlpool Corporation, Evansville Division</b>
<b>Source Location:</b>	<b>5401 U.S. Highway 41 North, Evansville, Indiana 47727</b>
<b>County:</b>	<b>Vanderburgh</b>
<b>SIC Code:</b>	<b>3632 and 3585</b>
<b>Operation Permit No.:</b>	<b>T163-7467-00022</b>
<b>Operation Permit Issuance Date:</b>	<b>July 13, 1999</b>
<b>Significant Source Modification No.:</b>	<b>163-11657-00022</b>
<b>Permit Reviewer:</b>	<b>Paula M. Miano/MES</b>

The Office of Air Management (OAM) has reviewed a modification application from Whirlpool Corporation, Evansville Division, relating to the construction of the following emission units and pollution control devices:

One (1) pre-expander and three (3) press molders, installed at F-12, exhausted to stacks F12-1 and F12-2, capacity: 14,000 pounds of beads per day.

**History**

On December 13, 1999, Whirlpool Corporation, Evansville Division submitted an application to the OAM requesting to replace the existing pre-expander with one (1) new pre-expander and to add three (3) press molders on an existing permitted production line. This modification will increase the capacity of the existing line from five hundred (500) pounds per hour (12,000 pounds per day) to 14,000 pounds per day. Whirlpool Corporation, Evansville Division, was issued a Part 70 permit on July 13, 1999. The existing, permitted, eight (8) press molders were not specifically cited in section A.2(g) of the Part 70 operating permit.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
F12-1	pre-expander	11.5	1.89	4,300	ambient
F12-2	expanded polystyrene process	30	4.24	7,500	ambient

### Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 13, 1999. Additional information was received on January 18, 2000.

### Emission Calculations

See page 1 of 1 of Appendix A of this document for detailed emissions calculations.

### Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM <sub>10</sub>	0.0
SO <sub>2</sub>	0.0
VOC	36.9
CO	0.0
NO <sub>x</sub>	0.0

### Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7.10.5(f)(4).



### County Attainment Status

The source is located in Vanderburgh County.

Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Vanderburgh County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Vanderburgh County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD Definition

Pollutant	Emissions (tons/year)
PM	0.036
PM <sub>10</sub>	0.036
SO <sub>2</sub>	0.011
VOC	620
CO	4.41
NO <sub>x</sub>	18.6

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the Technical Support Document for T 163-7467-00022, issued July 13, 1999.

#### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Proposed Modification	0.00	0.00	0.00	36.9	0.00	0.00
Contemporaneous Increases	0.00	0.00	0.00	0.0	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	5.87	0.00	0.00
Net Emissions	0.00	0.00	0.00	31.0	0.00	0.00
PSD Significant Levels	25	15	40	40	100	40

- (a) The contemporaneous VOC decreases of 5.87 tons per year are the annual average actual VOC emissions for the existing pre-expander computed for the most recent two (2) year period of 1998 through 1999.
- (b) This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

#### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

#### State Rule Applicability - Entire Source

##### 326 IAC 2-2 (Prevention of Significant Deterioration)

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21, this source is a major source. This modification is a minor PSD modification to an existing major PSD source because the potential to emit of the modification is less than the PSD significant levels.

### 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of NO<sub>x</sub> and VOC in Vanderburgh County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

### 326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### State Rule Applicability - Individual Facilities

#### 326 IAC 8-1-6 (General Provisions relating to VOC Rules)

The Expanded Polystyrene Process (F12) is not subject to the requirements of this rule because the proposed modification consists of an increase in capacity of an existing emission unit that was installed prior to January 1980. The modification does not consist of a completely new production line. There are no other 326 IAC Article 8 rules applicable to this modification.

### Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements.

## Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (g) One (1) Expanded Polystyrene Process, identified as F12, **consisting of one (1) pre-expander and eleven (11) press molders** with a maximum usage of ~~five-hundred pounds per hour (500 lb/hr)~~ **14,000 pounds of beads per day** of raw material, and exhausting to room.

## SECTION D.5

## FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

One (1) Expanded Polystyrene Process, identified as F12, **consisting of one (1) pre-expander and eleven (11) press molders** with a maximum usage of ~~five-hundred pounds per hour (500 lb/hr)~~ **14,000 pounds of beads per day** of raw material, and exhausting to room.

**(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)**

### D.5.1 Volatile Organic Compounds (VOC) [326 IAC 8]

~~Any change or modification to each facility that would lead to an increase in volatile organic compound (VOC) emissions above twenty-five (25) tons per year, as specified in 326 IAC 2-1 must be approved by the Office of Air Management (OAM) before such change or modification can occur.~~

### D.5.21 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the PM from the Expanded Polystyrene Process, identified as F12, shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and

P = process weight rate in tons per hour

## Compliance Determination Requirements

### D.5.32 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.5.21 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

## **Conclusion**

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 163-11657-00022.

Company Name: Whirlpool Corporation  
 Address City IN Zip: 5401 U.S. 41 North, Evansville, Indiana 47727  
 SSM: 163-11657  
 Plt ID: 163-00022  
 Reviewer: Paula M. Miano  
 Date: December 13, 1999

Page 1 of 1 of Appendix A

Emission Unit	Description	Max Usage Rate (lbs/day)	Blowing Agent (Pentane) %	Blowing Agent Released %	VOC Emission Factor	PTE VOC Emissions (tons/yr)
F12	Expanded Polystyrene Process	14,000	3.90%	37.00%	0.0144	36.87

Based on data submitted by the source to IDEM.

#### Methodology

VOC Emission factor = (( Blowing Agent \* Max Usage Rate))/Blowing Agent Released/Max Usage Rate

PTE VOC Emissions = (Max Usage Rate \* 365 \* VOC Emission Factor)/2000

Limited VOC Emissions = (Limited Usage Rate \* VOC Emission Factor)/2000